MEMORANDUM

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DATE:

July 20, 1984

TO:

Division File

FROM.

Margo R. Dilday - Southern Region MRD

SUBJECT: LPC 11911501 - Madison County - Wood River/Amoco - Riverfront - ILD980503106 Subpart F Inspection dated 6/26/84 at subject facility.

> This memorandum serves to highlight and clarify items within the checklist to better indicate alleged yiolations and point out deficiencies, which by a strict interpretation of 725.190-194, the latter cannot be considered violations, but nevertheless cause the ground water monitoring program to be inadequate relative to the information described to be desirable in the guidelines, Groundwater Monitoring Guidance of Owners and Operators of Interim Status Facilities, USEPA; SW-963: Revised March 1983.

APPENDIX A-1

The ground water monitoring program remains unchanged since the September 23, 1983 inspection by Perry Mann. No additional wells were installed or proposed as of the June 26, 1984 inspection by this writer. Dick Sumner, an Environmental Engineer at Amoco Chemical accompanied me during this inspection. Sampling protocol was observed and samples were split. The first year of monitoring was completed in December 1983 following the compliance schedule submitted to Mark Haney in a letter dated May 10, 1983. The facility had not yet decided whether or not to go into assessment as of the subject inspection date, per Mr. Sumner, because the statistical analyses were to begin that week.

APPENDIX A-2

No applicable to the subject facility as of the 6/26/84 inspection date.

APPENDIX A-3

Not applicable to the subject facility as of the 6/24/84 inspection date.

APPENDIX B

Remains unchanged since the September 22, 1983 inspection by Perry Mann.

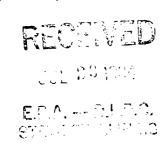
APPENDIX C

Not applicable to the subject facility as of the 6/24/84 inspection date.

APPENDIX D

Not applicable to the subject facility as of the 6/24/84 inspection date.





Additional Comments:

During the subject inspection, samples were split from Well # P-5 and #R-3. Similar procedures were used on each well. Dick Sumner was in charge of the sampling and was assisted by Joe Maher, a lab technician at Amoco. The following defictencies were observed which could make samples less representative:

Stick up and total depth are not routinely measured prior to sampling, per Mr. Sumner, because they are assumed to remain somewhat constant. Therefore, any change in elevation of the top or bottom of the well due to damage, settlement, or siltation would go undetected. These parameters should be measured and recorded each time samples are taken. Alteration of the berm in the vicinity of Well R-3 had caused an unmeasured change in stick up (the well was almost covered; less than 6 inches of stick up remained).

No field notebook was utilized during sampling. It is necessary to keep records of sampling conditions, protocol, observations, and other pertinent information to assure the adequacy of the ground water monitoring program. The proper format is discussed in the USEPA document: <u>Groundwater Monitoring Guidance for Owners and Operators of Interim Status Facilities</u>, starting on page 64.

The wells were evacuated with an acrylic bailer, removing two volumes. At least three volumes should be removed prior to sampling. Also, dedicated bailers should be used to prevent cross-contamination of the wells.

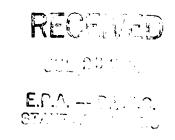
Locking well caps and protective cemented standpipes for each well are not provided. This provides the opportunity for above ground damage or sabotage.

It should also be noted that samples from Well # P-5 had a characteristic refinery odor.

Evaluations of ground water surface elevations still fail to address the existence of the "shallow piezometric surface", or the May 1983 Woodward-Clyde report that indicates that the ground water flow in the deeper zone is "northeasterly, probably toward the Amoco supply wells".

MRD:jlr

cc: Southern Region Mark Haney Phil Van Ness



APPENDIX A-1

FACILITY INSPECTION FORM FOR COMPLIANCE WITH INTERIM STATUS STANDARDS COVERING GROUND-WATER MONITORING

Company Name: Amoco-Riverfront:	IEPA I.D. Number: 11911501				
Company Address: Across Riverfront Rd.;	USEPA I.D. Number: ILD380503100				
Wood River, IL	Inspector's Name: Macy Dilday				
62095					
Company Contact/Official: R. Sumner;	Branch/Organization:				
Title: Environmental Engineer; Date of Inspection: 6/26/84					
	Yes No Unknown Wavied				
Type of facility: (check appropriately)					
 a) surface impoundment b) landfill c) land treatment facility d) disposal waste pile* 					
Ground-Water Monitoring Program	•				
1. Was the ground-water monitoring program reviewed prior to site visit? If "No,"					
a) Was the ground-water program reviewed at the facility prior to site inspection?					
2. Has a ground-water monitoring program (capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility) been implemented? 725.190(a)					

*Listed separate from landfill for convenience of identification.

The completed checklist consists of Appendix A-1.

•	Yes	No	<u>Unknown</u> <u>Wavied</u>			
Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1)		<u></u>	see meniciandom			
a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?)		<u></u>				
Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2)		<u></u>	-			
a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer?		<u> </u>				
Have the locations of the waste management areas been verified to conform with information in the ground-water program?		<u>~</u>				
a) If the facility contains multiple waste management components, is each component adequately monitored?		¥				
Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No," explain discrepancies.	<u> </u>					
Well completion details. 725.191(c)						
 a) Are wells properly cased? b) Are wells screened (perforated) and packed where necessary to enable 	∠					
sampling at appropriate depths? c) Are annular spaces properly sealed		-\scale				
water?	<u> </u>					
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1-2	EDA 0.1 7:0.					
	installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1) a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?) Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2) a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer? Have the locations of the waste management areas been verified to conform with information in the ground-water program? a) If the facility contains multiple waste management components, is each component adequately monitored? Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No," explain discrepancies. Well completion details. 725.191(c) a) Are wells properly cased? b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths? c) Are annular spaces properly sealed to prevent contamination of ground-water?	Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1) a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?) Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2) a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer? Have the locations of the waste management areas been verified to conform with information in the ground-water program? a) If the facility contains multiple waste management components, is each component adequately monitored? Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No," explain discrepancies. Well completion details. 725.191(c) a) Are wells properly cased? b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths? c) Are annular spaces properly sealed to prevent contamination of ground-water?	Has at least one monitoring well been installed in the uppermost aquifer hydraulically upgradient from the limit of the waste management area? 725.191(a)(1) a) Are ground-water samples from the uppermost aquifer, representative of background ground-water quality and not affected by the facility (as ensured by proper well number, locations and depths?) Have at least three monitoring wells been installed hydraulically downgradient at the limit of the waste handling or management area? 725.191(a)(2) a) Do well numbers, locations and depths ensure prompt detection of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer? Have the locations of the waste management areas been verified to conform with information in the ground-water program? a) If the facility contains multiple waste management components, is each component adequately monitored? Do the numbers, locations, and depths of the ground-water monitoring wells agree with the data in the ground-water monitoring system program? If "No," explain discrepancies. Well completion details. 725.191(c) a) Are wells properly cased? b) Are wells screened (perforated) and packed where necessary to enable sampling at appropriate depths? c) Are annular spaces properly sealed to prevent contamination of ground-water?			

		•				<u>Yes</u>	No	Unknown	Wavied
3.				ater sampling and and loped? 725.192(a)	alysis	<u></u>			
	a) b) c)	Is 1 Does	the pla s the p	en followed? An kept at the facil plan include procedu iques for:		\leq			
		1) 2) 3) 4) 5)	Samp Samp Analy	le collection? le preservation? le shipment? /tical procedures? n of custody control	?	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
94	wate for	r san	mples l first y	ed parameters in groupeing tested quarter year? 725.192(b) and	ly	<u></u>			-
	a)			round-water samples for the following:					
		1) 2)	suita as a 725.1	neters characterizing ability of the ground drinking water supp 192(b)(1) neters establishing	i-water ly?	<u> </u>			
		3)	water Param groun	r quality? 725.192(i neters used as indica nd-water contaminatio	o)(2) ntors of	<u>_</u>			
			/25.	192(b)(3)					
			(i) (ii)	For each indicator are at least four a measurements obtain upgradient well for sample obtained dur first year of monit 725.192(c)(2) Are provisions made culate the initial arithmetic mean and of the respective procedurations or wobtained from the upwell(s) during the	replicate ned at each reach ring the coring? e to cal- background l variance parameter values upgradient	∠_			
				year? 725.192(c)(2		\checkmark			

Yes No Unknown Wavied b) For facilities which have completed first year ground-water sampling and analysis requirements: 1) Have samples been obtained and analyzed for the ground-water quality parameters at least N/A first year completed December, 1983 annually? 725.192(d)(1) 2) Have samples been obtained and analyzed for the indicators of ground-water contamination at Jone samples were obtained during inspection least semi-annually? 725,192(d)(2) c) Were ground-water surface elevations determined at each monitoring well each time a sample was taken? 725.192(e) d) If it was determined that modification of the number, location or depth of monitoring wells was necessary, was the system brought into compliance with 725.191(a)? 725.193 NOT DETERMINED Has an outline of a ground-water quality assessment program been prepared? 725.193(a) Does it describe a program capable of determining: 1) Whether hazardous waste or hazardous waste constituents have entered the ground-water? The rate and extent of migration of 2) hazardous waste or hazardous waste constituents in ground-water? Concentrations of hazardous waste 3) or hazardous waste constituents in ground-water? b) Were records kept of the analyses and evaluations, specified in the groundwater quality assessment (throughout the active life of the facility)? 725.194(b)(1) If a disposal facility, were (are) records kept through the post-closure period as well?

	tes	NO	Unknown	Wavied
11. Have records been kept of analyses for parameters in 725.192(c) and (d)? 725.194(a)(1)	<u> </u>			
12. Have records been kept of ground-water surface elevations taken at the time of sampling for each well? 725.194(a)(1)	∠ .			
13. Have records been kept of required evaluations in 725.192(e)? 725.194(a)(1)	<u> </u>			

*EPA will be proposing (Spring 1982) to replace this reporting requirement with an exception reporting system where reports will be submitted only where maximum contaminant levels or significant changes in the contamination indicators or other parameters are observed. EPA has delayed compliance stage for 14 a) above until August 1, 1982 (Federal Register, February 23, 1982, p. 7841-7842) to be coupled with exception reporting in the interim.